Teaching Hands for an Analog Timepiece

DESCRIPTION

Field of the Invention

[Para 1] This invention relates generally to timepieces, specifically to a novel design of hour and minute hands for clocks, watches, and educational materials to be used by individuals who are learning to tell time on an analog timepiece.

Description of Problem

[Para 2] Learning to tell time on an analog timepiece is difficult for the average child and particularly hard for a special-needs individual. The hands on a typical analog clock are difficult for students to understand for the following reasons:

[Para 3] a) The hands point to both the hour and minute numerals without clearly showing which numeral should be read. For example, when the hour hand is on 2 hours it could also be read as 10 minutes.

[Para 4] b) Even if the student understands which hand points to the hour numerals and which points to the minutes, the student usually becomes confused when the hour hand is between two hour numerals. For example, at 2:30, the hour hand is halfway between the 2 and the 3. Some students would say that it was 3:30 instead of 2:30 because they would not know which number to read.

Description of Prior Art

[Para 5] Many teaching clocks exist which attempt to solve the aforementioned problems by using unique clock face designs. For example, U.S. Pat. No 6,071,124 uses a clock face with words between the hour

numerals to help the student read the correct numeral. U.S. Pat. No 4,219,943 and U.S. Pat. No 4,124,945 use color-coordinated segments to guide the student's eye to the correct hour numeral. U.S. Pat. No 5,030,104 uses sector shapes having common border lines so that the hour hand and minute hand indicate the correct hour and minute even when these hands point to a space between two numerals or directly on a sector border line.

[Para 6] None of the aforesaid devices have the advantage of the present invention. Unlike previous timepiece designs, the current invention does not require that the student be able to read words or understand the color-coordination system that exists between the segments and current hour numerals. The current invention uses a typical clock face that has both hour and minute numerals, and novel clock hands with specially-shaped tips. With minimal effort, the student is able to tell time by simply reading the numbers which appear within the shapes at the tip of the hands. Using the shaped hands trains the student to look at the correct numbers on the clock. Once the student learns to tell time with the shaped hands, he/she can easily transition to a timepiece with typical hands.

Summary of Invention

[Para 7] The invention is directed to a device that teaches a student how to tell time from an analog clock by utilizing specially-designed hour and minute hands with shaped tips which highlight the correct hour and minute numerals, thus simplifying the reading of an analog clock.

[Para 8] The clock hands can be easily substituted for the hands of a standard timepiece. Furthermore, the hands are attractive, durable and inexpensive to manufacture.

[Para 9] Students can quickly learn to read an analog timepiece and can easily transfer their time-reading abilities to a typical timepiece.

Brief Description of Drawings

[Para 10] FIG. 1 is the front elevation view showing the clock hands in representative positions relative to the hour and minute scales.

[Para 11] FIG. 2 is an illustration of a hands-on manipulative with clock hands that can be moved manually.

[Para 12] FIG. 3 illustrates some possible shape tips for the hour hand.

[Para 13] FIG. 4 illustrates some possible shape tips for the minute hand.

[Para 14] FIG. 5 is an illustration of a clock face which uses a minute scale which increases from 1 to 30 and then decreases back down to 1. This scale requires the shape on the tip of the hour hand to be centrally positioned on the tip.

[Para 15] FIG. 6 shows one form of the time teaching device displayed on a computer screen with hands that can be dragged into position.

Preferred Embodiment

[Para 16] With reference to the drawings, wherein the same reference numbers are used to designate the same elements throughout, FIG. 1 shows one form of a time teaching device that includes specially-designed hour and minute hands in representative positions relative to the hour and minute scales. The face of timepiece (1) is marked with the conventional numerical hour markings (3), the numbers one ("1") to twelve ("12") are distributed evenly around the face (1) at a radius of a length such that hour numerals (3) are visible within the center of the hollow shaped tip of hour hand (4). The analog face (1) is additionally marked with numerical minute markings (2), the numbers zero ("00") to fifty-nine ("59") are distributed evenly about a circle around the face (1) at a radius such that the minute numerals (2) appear within the center of the hollow-shaped tip of the minute hand (7).

[Para 17] FIG. 2 shows one form of a time teaching device (10) with hour (13) and minute (16) hands that can be manually moved into position by a student. The hands may be magnetically attached, attached by some other suitable means, or placed into position with no adhesive.

[Para 18] FIG. 3 shows some possible tip shapes for the hour hand. The hour hand tip shapes may be elliptical (23), hexagonal (24), rectangular (25), enclosed and offset (19), partially enclosed and offset (20), enclosed and centered (21), partially enclosed and centered (22) or any desired shape that highlights the current hour numeral.

[Para 19] FIG. 4 shows some possible tip shapes for the minute hand. The minute hand tip shapes may be hexagonal (27), elliptical (28), rectangular (29), enclosed (30), partially open (31), or any desired shape that highlights the current minute numeral.

[Para 20] FIG.5 shows one form of a time teaching device that includes specially-designed hour and minute hands in representative positions relative to the hour and minute scales. The face of timepiece (33) is marked with the conventional numerical hour markings (36), the numbers one ("1") to twelve ("12"), distributed evenly around the face (33) at a radius of a length such that hour numerals are visible within the center of the hollow shaped tip of hour hand (34). The analog face (33) is additionally marked with numerical minute markings (37), which are distributed evenly about a circle around the face (33) at a radius such that the minute numerals appear within the center of the hollow-shaped tip of the minute hand (35). The minute numerals start at "00"and increase by units of one to "30"; they then decrease by units of one to "01". The shape of the hour hand (34) is centered on the shaft so that the correct hour numeral will be within the shape for times that are either "past" the preceding hour or "of" the next hour.

[Para 21] FIG. 6 shows one form of the time teaching device (38) displayed on a computer screen (39) with hands (40, 41) that can be dragged into position.

[Para 22] While the invention has been described with reference to specific embodiments, it will be understood by those skilled in the art that various changes may be made and equivalents may be substituted for elements thereof without departing from the scope of the invention. In addition, many modifications may be made to adapt a particular situation to the teachings of the invention without departing from the essential scope thereof. Therefore, it is intended that the invention not be limited to the particular embodiments for

carrying out this invention, but that the invention will include all embodiments which may come within the language and scope of the claims.